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FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C.

April 19, 1995

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William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, D.C. 20554

Re: CC Docket 92-115

Dear Sir:

Enclosed for filing on behalf of the Mobile and Personal Communications Division of the Telecommunications Industry Association are an original and four copies of a *Response to Replies and Comments to Joint Reply* in the above referenced docket.

All questions regarding these pleadings can be referred to the undersigned.

Sincerely,


Grier C. Raclin

Enclosures

cc: All Commissioners (*via hand delivery*)

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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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RECEIVED TELECOMMUNICATIONS
DIVISION

In the Matter of)
)
Revision of Part 22 of the Commission's)
Rules Governing the Public Mobile Services)

CC Docket No. 92-115

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TO: THE COMMISSION

**RESPONSE TO REPLIES AND COMMENTS TO
JOINT REPLY**

The Mobile and Personal Communications Division of the Telecommunications Industry Association ("TIA"), by its counsel, hereby submits this response to new proposals and issues raised in various replies and comments that were filed on or about April 3, 1995 in response to the *Joint Reply and Comment* filed in this proceeding by TIA and the Cellular Telephone Industry Association ("CTIA") on February 2, 1995 (the "*Joint Reply*").^{1/} In support of this Response, TIA states as follows:

I. Background

1. In their *Joint Reply*, TIA and CTIA suggested amendments to §22.919 of the Federal Communications Commission's ("FCC" or the "Commission") Rules that would allow cellular telephone manufacturers to temporarily remove or transfer (but not duplicate) cellular telephone Electronic Serial Numbers ("ESNs") in certain limited circumstances. This proposal was offered in an attempt to strike the balance between the desire to take all reasonable steps to fight cellular fraud, and the need to undertake repair and upgrade activities that sometimes

^{1/} A Motion for Acceptance of Response is being filed concurrently herewith.

require ESN transfers. TIA and CTIA also proposed that the Commission mandate the incorporation of authentication features into all cellular telephones receiving type acceptance approval after July 1, 1995, and that the Commission explicitly prohibit the use of ESNs other than those programmed into cellular telephones by the telephones' manufacturers. *Joint Reply* at Attachment A.

2. Various parties commented or replied (the "*Replies*") to the amendments suggested in the *Joint Reply*. For example, C-Two-Plus Technology, Inc. ("C2+") and the Independent Cellular Services Association ("ICSA") requested the Commission to allow parties other than manufacturers to alter or duplicate ESNs with the relevant cellular subscriber's approval. *ICSA Reply to Proposal by CTIA and TIA Relative to Repair Center Modifications To ESNs* (the "*ICSA Reply*"), filed April 3, 1995, at 3; *C-Two-Plus Technology, Inc. Comments on Joint Reply* (the "*C2+ Comments*"), filed April 3, 1995, at 3. Additionally, certain cellular telephone system operators (the "Cellular Operators"),^{2/} while supporting TIA's and CTIA's request that compliance with authentication standards be made mandatory, requested the Commission to impose this requirement on cellular telephones that are *manufactured or imported* more than three months after the release of the Commission's Order addressing this issue. *Joint Comments of Cellular Carriers*, filed April 3, 1995, at 7.^{3/} This *Response* is being

^{2/} AirTouch Communications, Inc.; ALLTEL Mobile Communications, Inc.; Baton Rouge Cellular Telephone Company; Bell Atlantic Mobile Systems, Inc.; BellSouth Corporation and BellSouth Cellular Corp.; New Par; NYNEX Mobile Communications, Inc.; Radiofone, Inc.; U S West NewVector Group, Inc.; and Vanguard Cellular Systems, Inc.

^{3/} McCaw Cellular Communications, Inc. filed comments supporting TIA's requested changes to § 22.919. *Comments of McCaw Cellular Communications, Inc.*, filed April 3, 1995, at 1.

filed with the Commission to address the new proposals, arguments and issues raised for the first time in the *Replies*.

II. *TIA's Proposed Rule Changes Were Not Proposed To Obtain A Monopoly Over The Repair And Upgrade Of Cellular Telephones*

3. As indicated in the *Joint Reply*, a cellular telephone's ESN information often is dispersed and integrated into the respective unit's operating software *for the exact purpose* of "hiding" the ESN among the other software information.^{4/} Consequently, whenever the operating software must be replaced due to defects, or upgraded in connection with the issuance of new features, the unit's ESN necessarily must be temporarily removed from the unit with the unit's operating software, and then be reinserted into the unit with the replacement or upgraded software. *Joint Reply* at 7-8. In addition, in rare cases where a defective cellular telephone cannot be repaired quickly at the repair site, TIA members will normally remove the ESNs from these telephones and insert them into functioning telephones so that customers may leave the repair site with an operating telephone and without the need to have an entirely new ESN "activated" by their carrier. In no case do TIA members *duplicate* ESNs to allow more than one telephone to use an ESN at the same time. Nevertheless, it is apparent that if these cellular telephones are required to incorporate ESNs that are incapable of being "removed" or "transferred" in this fashion, they also would be incapable of being repaired or upgraded, which clearly would be inconsistent with the consuming public's interest.^{5/} It was to overcome this flaw

^{4/} It would appear that isolating a telephone's ESN in a separate chip or software package would make the ESN readily identifiable and thus *less* secure than intermingling the ESN data with other software information.

^{5/} It is important to note in this regard that, unlike the activities undertaken by C2+ and similar entities, *TIA members do not alter or transfer ESNs in a manner to allow more than one telephone to use the same ESN concurrently.*

with §22.919 that TIA and CTIA proposed to the Commission that it allow ESNs to be accessible by manufacturers in connection with certain normal, authorized repair and upgrade activities.

4. CTIA and the Commission have expressed the concern that allowing access to ESNs, even for limited, legitimate purposes, might result in the publication and misuse of ESN-transferring software. After their discussions, CTIA accepted TIA's stated need for its members to be able to access ESNs in connection with necessary repair and upgrade activities, and TIA in turn acknowledged CTIA's interest in sharply limiting access to ESN-transferring software. The net result of the discussions between TIA and CTIA was set forth in the *Joint Reply*, where the Associations jointly proposed that manufacturers' representatives be allowed access to ESN-transferring software in tightly controlled situations that protect ESN-transferring software from *unauthorized* access.

5. C2+ and ICSA have suggested that the modifications to §22.919 suggested by TIA and CTIA were proposed, in part, to provide TIA members with a monopoly position in the market for the repair and upgrade of cellular telephones. *C2+ Comments* at 1; *ICSA Reply* at 1. This clearly is not the case. The process of repairing or upgrading cellular telephones is rarely a profitable activity (it is provided as a necessary, but ancillary service to purchasers of cellular telephones), and thus a "monopoly" position in this market is not necessarily desirable. Indeed, as set forth in the *Petition for Reconsideration*, many TIA members have traditionally relied upon authorized third parties to repair and upgrade cellular telephones. *Petition for Reconsideration* at 8. Contrary to the misstatements made in the *Replies*, the proposed modifications to §22.919 that would have allowed manufacturers or their affiliates to have access

to ESNs was proffered solely to satisfy the CTIA's and the Commission's stated desire to limit to the greatest extent possible the individuals having access to ESN-transferring software, while accommodating the justified need for manufacturers to have access to ESNs for normal repair and upgrade activities.

III. *Cellular Telephones Produced By TIA Members Did Not Violate the Commission's Former ESN Restrictions*

6. C2+ argues that the *Report and Order* unfairly singles out its and other similar entities' duplication of ESNs, which C2+ claims is performed with the authorization of the relevant subscriber for the purpose of allowing more than one cellular telephone to use the same ESN at the same time. *C2+ Comments* at 11. This duplication would seem inconsistent with Paragraph 2.3.2 of the Commission's Cellular System Mobile Station - Land Station Compatibility Specifications (OET-53) as enforced in prior Rule §22.915 and new Rule §22.933, 47 C.F.R. §22.933 (1995), regardless of prohibitions in §22.919 of the Rules. Nevertheless, C2+ seeks to divert attention from this fact by claiming that its ESN *duplication* activities are the same as the ESN *temporary removals* or *transfers* performed by TIA members in normal repair and upgrade activities.

7. C2+'s statements in this regard, and the implication that TIA members' repair and upgrade activities violated the Commission's previous ESN restrictions, must be explicitly rejected by the Commission. Clearly, as is manifested by the Commission's type-acceptance approval of innumerable cellular telephones prior to January 1, 1995, approved cellular telephones did not incorporate "readily alterable" ESNs, nor did TIA members' transfers of ESN in connection with repairs and upgrades violate the requirement that ESNs be "uniquely

assigned” to individual telephones. Indeed, contrary to C2+’s activities, *TIA members did and do not alter or emulate cellular telephone ESNs in a way to allow more than one telephone to utilize an ESN concurrently*. While it sometimes is necessary for TIA members to *temporarily* remove an ESN from a telephone in connection with a repair activity, or *transfer* an ESN to an operating telephone to allow subscribers uninterrupted service, TIA members assure that, in compliance with the Compatibility Specifications, only one telephone is assigned a specific ESN at a time. This is very different from C-2+’s *duplicating* ESNs so that they can be used in more than one telephone concurrently. It was the *duplication* activity, not the authorized transfers of ESNs in connection with legitimate repair and upgrade activities, that is the basis for most cellular fraud and was therefore prohibited in the Compatibility Specifications and the Commission’s Rules.^{6/}

IV. *Imposing a “Manufacturing or Import” Deadline, Rather than a “Type-Acceptance” Deadline, for the Incorporation of Authentication Features is Unwarranted.*

8. In their *Joint Reply*, TIA and CTIA requested the Commission to mandate that all cellular telephones receiving type acceptance approval after July 1, 1995 incorporate authentication features satisfying TIA’s industry standards.^{7/} The Cellular Carriers, while supporting TIA and CTIA’s request that TIA’s authentication standard be made mandatory, request that authentication technology be incorporated into telephones *manufactured or imported* three months after the issuance of the FCC’s Order addressing their request.

^{6/} Nevertheless, TIA agrees with C2+’s position that OET-53’s requirement that ESNs not be “readily alterable” was *not* violated by TIA members’ temporary removal of ESNs in connection with repair and upgrade activities. The fact that ESNs might be duplicated through software stolen from TIA members does not render the ESNs “readily alterable.”

^{7/} Given the extended delay in obtaining the Commission’s decision on TIA’s original *Petition*, TIA would suggest that the date for requiring compliance with industry authentication standards be extended until October 1, 1995.

9. TIA is, of course, pleased that its request for authentication to be made mandatory received the support of the Cellular Carriers. However, the time period suggested by the Cellular Carriers is far too short to allow manufacturers to respond to such a requirement. It can often require six, nine, or many more months to design, obtain type-acceptance approval for, manufacture and distribute a specific cellular telephone model. Even if the Commission rules expeditiously on TIA's *Petition*, the Cellular Carrier's proposal would effectively bar the manufacture or import of *any* cellular telephones for an extended period between the three month deadline they suggest and the time when manufacturers will have obtained type acceptance approval for, manufactured, tested and distributed products incorporating authentication technology.

10. In this regard, it must also be recognized that authentication technology incorporated into telephones is worthless until equivalent technology also is incorporated into the switches of cellular systems with which the authenticating unit is communicating. Authentication of the telephone side of the cellular communications circuit is irrelevant without offsetting technology existing on the system/switch side of the circuit, just as use of a cellular telephone is impossible where there is no carrier providing service to the area in which the telephone is located. What the Cellular Carriers fail to note in their pleading is that authentication will not be deployed in the switch side of system operations until long after the date they suggest the Commission adopt as the date by which cellular telephones must incorporate authentication features. For these reasons, TIA and CTIA (*including* representatives of some of the Cellular Carriers) recognized that, for authentication technology to be widely deployed expeditiously, it must be phased into *both* the switch and telephone side of system

operations in a coordinated manner. Authentication will not be widely accepted if either consumers or operators are required to incur a substantial cost in deploying the technology long before it becomes useful (*i.e.*, long before the other “side” has deployed the technology).

11. While TIA and CTIA share desires not to increase more than necessary the number of non-authenticating telephones that have been deployed, and to deploy authenticating cellular telephones sufficiently to encourage systems operators to deploy authentication features into their switches, they determined that the best time to require the incorporation of authentication technology into cellular telephones was the time proposed in the *Joint Reply*: authentication should be mandatory for telephones receiving *type acceptance approval* after July 1, 1995.^{8/} Imposition of the authentication requirement prior to that time, such as suggested by the Cellular Carriers, not only might result in a moratorium on the manufacture or import of new telephone models, it would require consumers to pay the cost of authentication features without the opportunity to enjoy the benefit of those features, and might actually *delay the deployment of authentication technology*. These results, even if unintended, clearly would be contrary to the public interest.

V. The Commission Must Interpret §22.919 to Allow Compliance

12. New §22.919 of the Commission’s Rules could be read to make compliance with the Rule impossible. Specifically, the Rule provides that ESNs may not be “alterable, transferable, removable or otherwise able to be manipulated” 47 C.F.R. §22.919(c) (1995). Unfortunately, just as mortals cannot “make a tree,” mortal engineers do not have the capability of foreseeing the future so as to assure that what appears “inalterable” today will remain so. The

^{8/} See footnote 6, *supra*.

Commission must therefore make clear that compliance with this Rule will be judged (i) only once, at the time the relevant cellular design obtains type-acceptance approval; and (ii) based upon the manufacturers' good faith conclusions given the state of the technology at the time of review. To fail to interpret the Rule in this manner might result in manufacturers being held liable for failing to design absolutely "inalterable" ESNs if and when later technological developments allowed the "alteration" of ESNs in ways unforeseeable at the time the units received FCC approval. Such a result would be patently unfair and, given the risk of being later found in violation of FCC Rules, might effectively prohibit manufacturers from designing and selling new cellular telephone models that meet the public's demand.

VI. *The Commission Must Act Expeditiously.*

13. Regardless of the Commission's final determinations on the merits of the issues raised in this proceeding, it must act expeditiously. As suggested above, it is virtually impossible for manufacturers to assure compliance with Rule §22.919 as presently drafted, and thus they cannot in good faith apply for the Commission's type-acceptance approval for new cellular units, even though those units have been developed to meet the public's demand. While TIA's *Petition for Reconsideration* and TIA's and CTIA's *Joint Reply* are pending unresolved, most TIA members have withheld applications for type acceptance approvals of new cellular telephone units. These delays are becoming significant and contrary to the public's interest in obtaining up-to-date technology and features. It is therefore extremely important for the Commission to act expeditiously to resolve the issues raised in this proceeding.

III. Conclusion

14. For the foregoing reasons, the Mobile and Personal Communications Division of the Telecommunications Industry Association requests the Commission to grant the proposal made in the *Joint Reply* and adopt the other suggestions made herein.

Respectfully submitted,

**THE MOBILE AND PERSONAL
COMMUNICATIONS DIVISION
OF THE TELECOMMUNICATIONS
INDUSTRY ASSOCIATION**

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April 19, 1995

AFFIDAVIT

The undersigned, Allan D. Angus, being first duly sworn, does hereby depose and state as follows:

1. I am a Senior Member of Technical Staff of JRC International, Inc., a manufacturer of cellular telephone equipment located in Fort Worth, Texas. I have been employed in the areas of research, development, design, and standardization of cellular telephone equipment for over 10 years. During 1992 and 1993, I stood as Chairman of TIA's Ad Hoc Authentication Group (AHAG) in both ANSI-accredited Engineering Subcommittee TR45.3 and Committee TR45. The AHAG established and documented the authentication standards that are the subject matter of this and earlier TIA and CTIA comments.

2. I have reviewed the Response to Replies and Comments to Joint Reply to be filed on behalf of the Mobile and Personal Communications Division of the Telecommunications Industry Association in the "Part 22 Rewrite" Proceeding (CC Docket No. 92-115), and hereby attest under penalty of perjury that the facts and matters recited therein are true and correct to the best of my knowledge, information and belief.



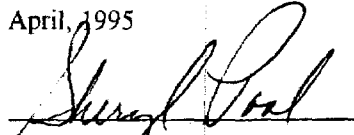
Allan D. Angus

Senior Member of Technical Staff
JRC International, Inc.

SUBSCRIBED and SWORN to

before me this 19th day of

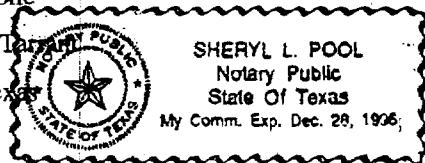
April, 1995



Notary Public

County of Tarrant

State of Texas



CERTIFICATE OF SERVICE

I, Kimberly A. Dunmire, a secretary in the law firm of Gardner, Carton & Douglas, certify that I have this 19th day of April, 1995, caused to be sent by first-class, U.S. mail, postage prepaid, a copy of the foregoing RESPONSE TO REPLIES AND COMMENTS TO JOINT REPLY to the following:

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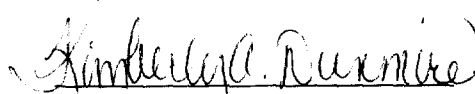
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